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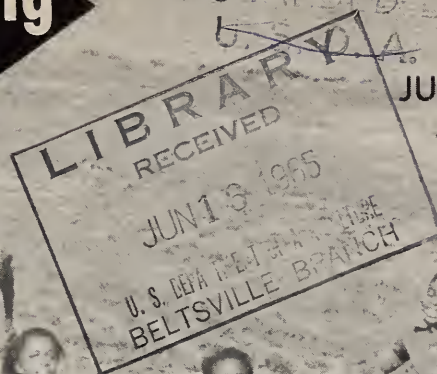
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# agricultural marketing



JUNE 1965



**HOW THEY GOT  
SCHOOL LUNCHES**

**Page 8**



The name of the Agricultural Marketing Service was changed, effective Feb. 8, to the Consumer and Marketing Service.

ORVILLE L. FREEMAN  
*Secretary of Agriculture*

S. R. SMITH, Administrator  
*Consumer and Marketing Service*

Volume 10, Number 6

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## Cover Page

These students at Carver School in Pinetops, N. C., recently got nutritious lunches for the first time under the National School Lunch Program. North Carolina is working hard to bring these lunches to many such kids throughout the State and thus solve its problem of hungry children.

Editor, JAMES A. HORTON

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agricultural marketing

# How Many Pounds of Milk Per Gallon?

By Anna A. Schlenker

**M**OST of us don't think of milk or fluid milk products by the pound—we buy them by the gallon, quart, pint, or some other liquid measure.

But the accurate weight of a given measure of any of these products is extremely important in the marketing channels through which milk is transferred from the farm to your dinner table.

Accurate conversion of weight to volume or volume to weight is vital because the dairy industry handles products by both weight and volume at various stages. Milk dealers pay farmers for milk on a hundredweight basis, but sell to the consumer by the gallon, quart, and so forth.

Important though they are, the weights of specified volumes of milk and cream have long been subject to some uncertainty. Factors used in various segments of the industry and in different parts of the Nation have not been uniform, chiefly because of the limited nature of the studies on which they were based.

With today's advances in technology, however, milk is traveling longer distances from farm to market, and dealers are distributing their products over wider areas. These changes and the growth and expansion of the Federal milk marketing order program have combined to make accurate and uniform conversion factors more important than before in the marketing of milk.

The Federal order program was authorized by Congress in 1937 to maintain orderly marketing conditions for milk, and to assure consumers of adequate supplies of fresh, wholesome milk. The program has expanded until today there are 76 marketing orders regulating almost half of all milk in the Nation delivered by farmers, and covering milk supplies for about two-thirds of the total nonfarm population.

Accurate conversion factors are needed by Federal and State authorities who administer regulations pricing milk to dairy farmers. Weights and Measures authorities who check milk in retail containers must know how much the contents should weigh at the temperature at which their standards are set.

To establish accurate conversion fac-

tors, a study, "Volume-Weight Relationships for Milk and Fluid Milk Products" was recently completed. The three-year project was undertaken by a committee appointed by H. L. Forest, Director of the Dairy Division of the Consumer and Marketing Service, U.S. Department of Agriculture, which administers the Federal milk marketing order program. Under the chairmanship of Dr. B. L. Herrington of Cornell University, the committee included personnel from 13 cooperating Federal milk marketing order staffs.

The report on the study details the results of testing more than 8,000 samples of raw and processed whole milk, skim milk, and cream, including products fortified by the addition of nonfat milk solids. Samples were collected from producers' farms, handlers' plants, and retail stores. The markets which participated in the project represent a cross section of the country.

Testing was conducted for a full year, and product weights were determined at several temperatures. Samples were tested for fat and nonfat milk solids content and precisely weighed to ascertain the specific gravity and hence the weight per gallon. Differences due to composition, geographic location, and season, as well as temperature and other possible influences on volume-weight relationships were carefully investigated.

The conclusions based on the study findings are as follows:

Composition of fluid milk is the most important factor affecting weight.

The effect of temperature on the weight of fluid milk products is sufficiently important to require its inclu-

sion in weight determinations.

Differences in weight associated with geographic location, breed of cow (except as breed affects composition), and season of the year are relatively unimportant.

It was feasible to set up a single set of volume-weight conversion factors for nationwide use, since weight of milk varies according to fat and nonfat solids content, but not by geographic location. The factors were derived from universal equations developed in the study for several temperatures.

Weights computed from the universal equation or taken from the standard weight conversion tables, when related to product composition determined by acceptable laboratory methods, are more accurate than any single equation or table of weights previously developed.

From such a universal equation, e.g., the following weights were computed for products having an average composition, weighed at 50 degrees: whole milk, 8.60 pounds per gallon, and heavy cream, 8.38 pounds per gallon.

These differences in weight at any given temperature are much too small for most of us to detect at home, but the measurement of them is vital to the whole marketing system for milk and milk products.

With this study, as in many other ways, the Federal milk marketing order program continues to keep pace with changing conditions and technology to protect the interests of the consumer, the farmer, and the dealer.

*(The writer is a dairy products marketing specialist, Dairy Division, Consumer and Marketing Service, USDA).*



Laboratory technicians using the Babcock bottle method test a quantity of milk to determine specific gravity. This was one of many types of testing performed.



# Food Stamps Come To Chicago

DESPITE the rain, April 1 was a beautiful day for needy families in the Chicago area. It was the day the Food Stamp Program opened in Cook County, Illinois—when the less privileged in this area began sharing America's agricultural abundance for better diets and better health.

Among those crowded into the board room of the Cook County Commissioners for inauguration of the program were Federal, State, county and city officials who had devoted months of careful planning and team effort to bring the Food Stamp Program to the Nation's second largest city.

"Thousands of people are going to eat better, business in the community is going to be improved, and the farmer is going to have better markets," Secretary of Agriculture Orville L. Freeman predicted in opening the program. Mayor Richard P. Daley expressed similar sentiments in welcoming the program to Chicago.

No one knew better than Mrs. Eleanor Barnstable, Chicago mother of six, that her family would be eating better. A recipient of aid to dependent children, Mrs. Barnstable was selected by the Cook County Department of Public Aid as the first to purchase food coupons. During the inauguration program, she paid Secretary Freeman \$95 for food coupons worth \$131.

"With that extra \$36 in bonus coupons, we will be able to buy more of a variety of food than before. We might even be able to buy better quality food," Mrs. Barnstable said.

Making her first purchases with the food coupons, in the company of Secretary Freeman and other dignitaries, Mrs. Barnstable spent \$11 for cereals, crackers, bread, lettuce, milk and canned items.

"I'll be watching the ads for sales on meats and other foods," she said.

Thousands of other needy Cook County mothers will be doing the same thing now—planning their monthly income in order to make regular purchases of food stamps, and then working out a new, expanded food budget.

To help with the new and different budgeting which participation in the program demands, home economists with the Cook County Department of Public Aid are developing budgeting aids for homemakers.

Suggested shopping guides (pointing out nutritional needs and sources), suggested menus and even recipes have been and are being prepared. In addition, guides for setting aside enough money to purchase coupons, while meeting other expenses, have been developed for both persons receiving public assistance and other low-income families.

This information will be made available through homemaking classes held for public assistance recipients. It also will be offered to the city's newspapers in hopes of reaching even wider audiences.

About 75,000 Cook County families, representing some 260,000 persons receiving public assistance, can benefit from this program. An additional

20,000 to 25,000 low-income persons not on relief are estimated to be also eligible to participate.

In contrast to other food stamp areas, in which participants must buy their coupons at a limited number of locations, in Cook County stamps may be purchased from any of some 500 Chicago Currency Exchanges. These Exchanges, which perform a type of banking service and are conveniently scattered throughout the area, sell the coupons as agents for the U. S. Department of Agriculture.

More than 2,500 retailers and wholesalers have been authorized by USDA's Consumer and Marketing Service to accept food coupons, offering Cook County homemakers a wide choice of shopping places. For these grocers, the coupons are as good as money, usable in buying food from wholesalers or depositable at the bank, the same as their regular money receipts.

Grocers in Cook County look to steadily increasing food sales as the program climbs to its potential. A participating caseload, such as that indicated, eventually would result in about \$4½ million worth of food coupons per month being channeled through eligible grocery stores. Of that amount, \$1½ million would represent new business to the community. These increased food sales, in turn, mean better business for wholesalers, processors, and others who help supply food to Cook County.

Farmers, too, will benefit. The expanded market for their products provided by the Cook County program and by the more than 100 other food stamp programs currently in operation in the United States is sizable indeed.

*Secretary of Agriculture Orville L. Freeman joins Chicago's first recipient of coupons, Mrs. Eleanor Barnstable and her twin boys, Larry and Gary, in a food store. At right, a food stamp official explains the program to Chicago grocers.*





# QUALITY FOODS AROUND THE WORLD

By Nathan Koenig



*Nathan Koenig (second from left), U.S. delegate to the Commission, examines draft of a standard with the rest of the U.S. delegation.*

WHEN the Codex Alimentarius Commission meets to discuss international standards of quality for the foods of the world, the first problem it must overcome is a barrier in language.

Whereas romantics may consider love the universal language, to the 40 nations represented at the Commission meetings, a translator to explain what the delegates mean is much more valuable. After two years of these meetings, a new language is evolving—not one which will be taught in the schools, but a common language in the world of food. A language which holds great promise for consumers and food producers all over the world.

The Commission was established in 1963 under two wings of the United Nations—the World Health Organization and the Food and Agriculture Organization. In its short life, the Commission has accomplished a great deal. Its work covers the entire food spectrum including food additives, pesticide residues, sampling and analysis in addition to standards of identity and quality. Its objective is to formulate minimum standards which will be accepted by as many countries as possible—leaving the door open for higher standards in the future.

These standards will be entirely voluntary. No country nor private producer will be obligated to use them unless the country adopts them as part of its own regulations. The purpose of the standards is to serve as trading guides—like many of our domestic standards now do—enabling buyers and sellers to communicate freely and clearly. A store-owner in New York, for instance, could order French cheese

meeting the Codex standard without listing detailed specifications. When it reached his grocery store, consumers could buy it without feeling as though they were dipping into a grab bag.

Before any of the standards may be added to the official Codex Alimentarius, however, they must first pass through an elaborate system of checks and clearances. This step is logical and necessary—a standard which will affect the world's trade demands close scrutiny. Every member country must be given an opportunity to comment on the proposed standard.

During this review process for instance, an orange juice draft standard was contested by the United States because it limited the use of sweeteners to dried sucrose. The U.S.—supplier of 80 per cent of the world's fruit juices—uses various nutritional sugars and claimed that this restriction would impede international trade.

The sugars expert committee has developed draft standards for 7 kinds of sugar which will be submitted this fall to the Commission for its consideration. Other standards in the drafting process cover food hygiene; the use of food additives; fats and oils (including margarine and olive oil); cocoa products and chocolate; processed fruits and vegetables; fish and fishery products; and meat and meat products.

The granddaddy in international food standards work is the expert committee on dairy products. Since 1958, it has produced a code of principles covering milk and milk products; plus standards for butter, anhydrous milk fat, evaporated milk, sweetened condensed milk, and dry milks; in addition to five standard methods for

sampling and lab testing—all of these have been accepted by some 50 countries.

The dairy group has also developed a general standard for cheese which has been accepted by 17 countries, and at the present time they are working on standards for the individual varieties of cheese.

Obviously formulating international standards is no small task—but the dividends promise to justify the toil. Domestic standards have brought the U.S. consumer a long way from the "Buyer Beware" era. The Codex standards will take him even further. He will be able to buy food items from Italy or Spain or any other country knowing that the product will be wholesome and the quality good. Producers will benefit—they will not have to compete with inferior products camouflaged behind low prices. International trade overall will be more quality-oriented and there will be a common language to facilitate this trade.

The Commission is striving to turn its aspirations into realities as quickly as possible. Its members can't predict when their work will be finished, but they can predict the results—to the consumer, questions will be replaced by answers; to the producer, price will no longer be the only bargaining point; and to the international marketing system as a whole, trading will be encouraged by lowered barriers.

*(The author, chairman of the U.S. FAO Interagency Subcommittee on Codex Alimentarius, is Special Assistant to the Administrator, Consumer and Marketing Service, USDA.)*





# THE PNEUMATIC SAMPLER

## a new tool for measuring grain quality

*By Harold A. Kramer*

**A** DEVICE that uses some of the principles of the vacuum cleaner has been developed by U.S. Department of Agriculture marketing researchers to protect growers'—and taxpayers'—investment in millions of dollars worth of stored grain.

The device, called a pneumatic sampler, provides an improved method of detecting insects and mold in stored grain, so that steps can be taken to move or fumigate the grain before it's seriously damaged. Early detection of insects and mold with pneumatic samplers could produce a multimillion dollar savings in government storage losses alone. These savings are based on a conservative estimate by an Iowa State official of the Agricultural Stabilization and Conservation Service that losses could be reduced 1 cent per bushel by using pneumatic samplers in government storage facilities that now contain about 400 million bushels of grain. Savings would be even greater if this estimate included grain in private storage.

Scientists in USDA's Agricultural Research Service designed the new sampler. The ARS device is the latest generation of pneumatic instruments developed by USDA and industry for sampling grain, pea beans, peanuts, and cottonseed.

USDA's pneumatic sampler can draw grain from storage facilities so full that only a few feet of open space is left at the top—too little room for sampling with a conventional probe.

With the new sampler, only enough room is needed to couple on additional 2-foot lengths of tubing as the pneumatic sampler moves downward into the grain.

The sections of the probe snap on and twist off instantly. This is a unique feature of the sampler, especially appreciated by those handling the device in subzero temperatures.

The pneumatic sampler may catch insects by surprise, too. An ARS entomologist found more insects in grain sampled by the pneumatic device than when he sampled the same grain with a conventional probe.

Twenty of the devices are being tested by officials of the ASCS in Illinois, Indiana, Iowa, Kansas, Minnesota, Nebraska, Missouri, Ohio and South Dakota. And USDA's Consumer and Marketing Service plans to test 50 additional samplers for possible use in future Federal inspection procedures.

Pneumatic samplers may be an answer to a dilemma created by recent use of large covered hopper cars in transporting grain. Conventional sampling probes are too difficult to force, manually, into tightly packed grain in the bottom of these 100-ton capacity rail cars. With the prospect of more and more grain shipped in these "Big John" cars, it will be difficult to obtain representative samples of the entire content of the cars.

The pneumatic principle of the sampler makes it possible to penetrate the grain that's settled and compacted

in the big hopper cars. And less muscle power is needed on the part of inspectors.

Much of the muscle power required with conventional probes is taken over by air moving through the double-walled tubes. Outwardly, the two hoses of the sampler appear to be connected to a single probe. But within this probe is another tube, connected to one of the hoses. Air blows downward through the outer tube and returns, together with grain samples, back up the inner tube from an opening in both tubes at the tip of the probe. The sample is then deposited in a cyclone collector, the cone-shaped heart of the unit.

The tip in the end section of the light, but strong, steel tubes looks simple, but it's a unique feature of the sampler. About 2 inches in diameter, the opening has scalloped edges to cut through the crust of mold that might be present in the grain. Curved projections, or fins, inside the tip direct air movement in a swirling pattern, like a tiny tornado, gathering up grain that's pushed into the opening and blowing it up the inner tube.

This whirlwind effect generates sufficient force to permit use of a smaller motor and less electric power than would be needed if the unit simply employed suction, as in vacuum cleaners. Also, unlike vacuum cleaners, the sampler does not suck in materials outside the tip. This is a built-in safeguard against collection of dust and other light material from the surround-



*Prototype pneumatic grain sampler reaches bottom of deepest railcars: 100-ton capacity Big John hopper cars that are too deep for use of conventional sampling equipment. Dual hoses lead to a double tube — one mounted inside the other — held by Richard W. Gallup, C&MS Grain Division. One hose forces air through the outer tube to the opening at the end of the tube. Slanted fins inside the opening whirl air in a circular, tornado-like motion, drawing grain up inner tube. The inner tube leads to the second hose, which carries the grain (drawn by suction) to the cone-shaped receptacle.*

ing area that might downgrade samples.

The tip is designed so that grain must be pushed into the opening before the air picks it up and carries it up the tube. If the unit pulled in air as a vacuum cleaner does, it would draw grain even if the operator hesitated or paused in the middle of a load, resulting in a sample with an excessive portion from one location in the load.

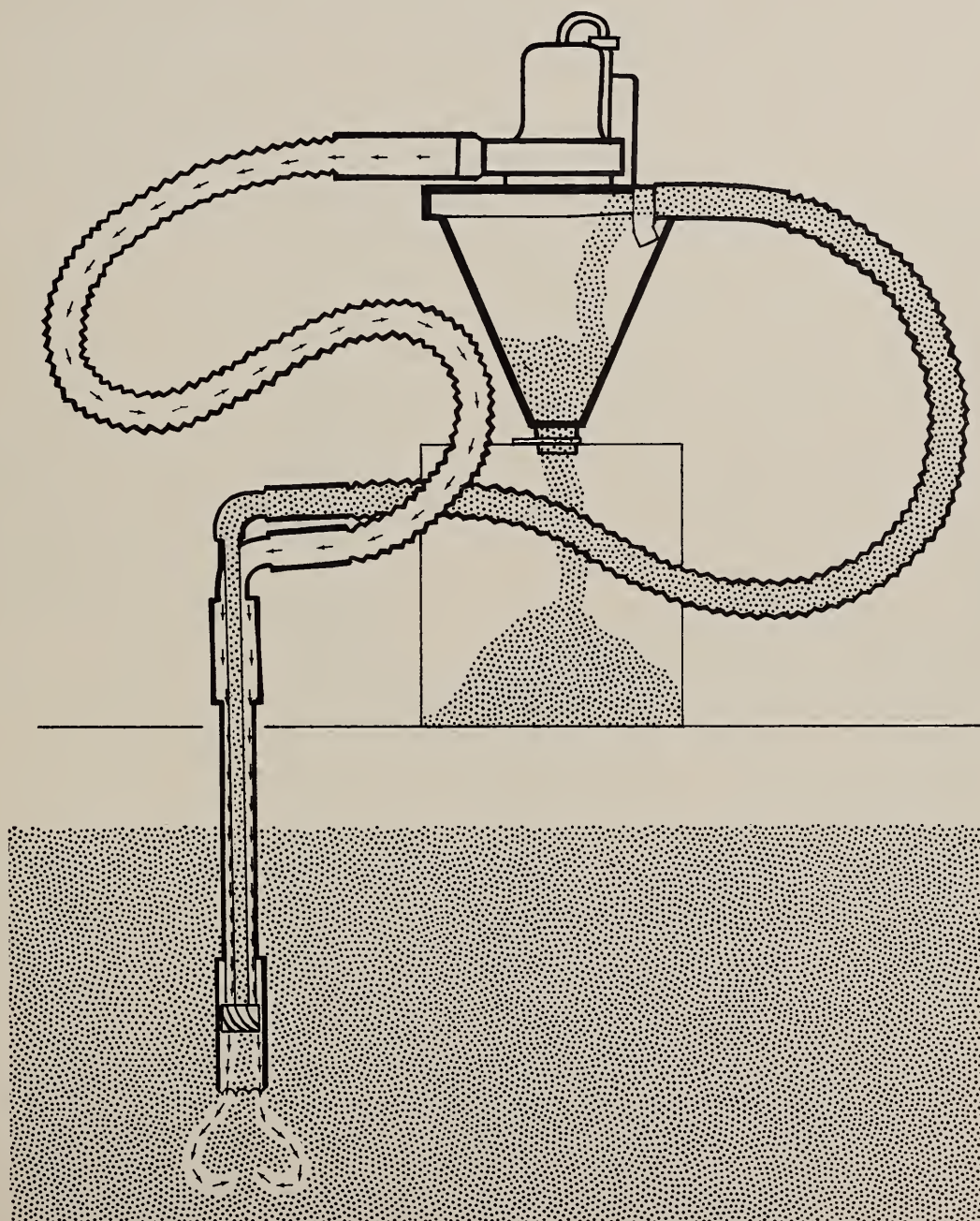
Along with its advantages, the pneumatic sampler has some disadvantages. One is that the unit requires a source of electric power. At present, cars with grain are scattered throughout a rail

yard, requiring a portable unit with auxiliary power supply that would have to be moved from car to car—a two-man process.

Cost, about \$1,000 per sampler, is another disadvantage. However, costs might be reduced if demand were sufficient to manufacture samplers in larger quantity.

Technical details of the pneumatic sampler will be published after additional tests have been completed.

*(The author is a member of the Market Quality Research Division, ARS, stationed at Beltsville, Md.)*





# How They Got School Lunches

*A story of hard work in North Carolina that can mean the end of the hungry child problem.*

**N**ORTH CAROLINA is working hard to solve its problem of hungry children at school.

During the first three months of this school year, an average of 47 per cent more students ate nutritious lunches at needy schools throughout the State. And attendance increased 10 per cent

above a year earlier in these schools.

Much credit for this accomplishment goes to a National School Lunch Program allocation of the \$9 million increased appropriation for 1965. Three-fourths of it went to the 16 Southeastern and Southwestern States because their participation in the program and

their needs were greatest. The program is administered by the Consumer and Marketing Service of the U.S. Department of Agriculture. But equal credit goes to State and local leaders who saw a challenge in their job and set out to help meet it. One such leader at the State level is O. L. Searing, who in July 1964 was appointed State Supervisor of School Food Services in North Carolina.

In sizing up the task facing him, he concluded that of all his department's needs, two stood out foremost: getting nutritious school lunches to the 35,000 children in 95 schools who had none, and bringing the lunch price within reach of thousands of needy students unable to buy lunches already available.

Thanks to a recently passed \$100 million State bond issue, the problem of no lunch facilities had been largely solved. This summer North Carolina school units will begin getting sufficient funds to build 388 new food service departments.

So Searing concentrated on the more than 400,000 children not eating the Type A lunches daily that were already available to them. Why weren't they eating them? Mainly because they couldn't afford to, he learned, though there were some attending schools where nutritionally inadequate lunches were provided instead of the nutritional Type A lunch served under the National School Lunch Program.

Each Type A plate lunch has a protein-rich food, fruits and/or vegetables, bread, butter and milk, in proper amounts to supply each child with 1/3 to 1/2 his daily food needs. Moreover, these lunches are planned by local school lunch managers who tailor menus to local food tastes and provide variety in meals.

To go without such a lunch because of inability to pay or because of a lack of nutrition education was of serious concern to Searing, a dynamic advocate of sound nutrition for children at school.







*Principal S. A. Gilliam chats with one of his students in their new food service department, obtained largely through his efforts. Similar nutritious lunches will soon be provided for students like the one on page 8, currently without them.*

He has a large, conspicuously displayed poster in his office which says: "You Can't Teach A Hungry Child."

Spurred by the realization that too many children in his State were simply too hungry to learn, Searing mapped out what he called a "Participation Explosion" campaign.

With the aid of his staff, which includes one associate and seven assistant State supervisors, he drafted, and the State Board of Education approved, a formula allocating National School Lunch funds on the basis of need and attendance to 121 especially needy schools. Under this formula, the greater the number of free lunches served by schools, the higher rate of reimbursement from Searing's office. This is a practice encouraged by national school lunch officials as a means of meeting

free lunch needs that are greater than normal Federal assistance can support.

This, of course, is subject to limits set by the USDA on the rate of reimbursement from Federal funds, and to a requirement that Federal contributions must be matched at least 3 to 1 from sources within the State.

North Carolina gave 87 critically needy schools rates of reimbursement high enough to permit them to reduce lunch prices to 10 to 20 cents, which most children could afford, instead of the 25 cents commonly charged. Though it increased participation in these schools by 47 per cent, and was thus highly significant, the total number of children eating in these schools was only 25,415. Of the 1.1 million children attending school on an average day, there were still some 400,000

across the State who were not getting these lunches. Of these 400,000 students, 130,000 were eating nutritionally inadequate lunches at schools not under the program. And another 303,000 in 400 schools, 300 predominantly Negro schools and 100 predominantly white, simply could not afford the Type A lunches.

Having stretched his funds as far as they would go, Searing sought State assistance. In a proposal for "Acceleration of the North Carolina School Food Services Improvement Program," he said:

"Current demands on the child's payment for lunches are too great to make it possible to provide adequate amounts of food, reasonable salaries, equipment and facilities, and to pay operational costs of utilities and supplies, salaries of supervisors and to meet the legitimate free or reduced-price lunch needs, specially in schools serving areas of low economic conditions."

He pointed out that State funds would make it possible for an additional 400 needy schools to receive needed increased rates of reimbursement, lower sale prices to a level most children could afford and provide more lunches free or at a reduced price.

As a result, he added, these schools would be able to: "Receive the total net cost of milk served free to needy students during the school day, improve attendance and make learning possible where it was not possible before, significantly increase the use of North Carolina farm products, increase state-wide participation which will result in considerably larger allocation of Federal funds next year."

The schools are serving 6.4 million lunches free or at reduced price, he said, but should be serving nearly 20 million. With \$1.2 million more, he could serve an additional 10 million lunches over normal growth next year, he calculated.

These funds would be spent within the State to buy foods. He estimates that the total cost of food for each lunch is 25.7 cents, 19.1 cents of which is spent locally, and the rest represents foods donated by the Federal Government. He also noted that North Carolina served some 114.5 million lunches last year.

In his proposal, he quoted this statement made by Secretary of Agriculture Orville L. Freeman: "With the Nation's growing need for excellence in the building of what President Johnson calls the *Great Society*—it is not enough





*Lunches under the National School Lunch Program are tailored to local tastes and have a protein-rich food, fruits and/or vegetables, bread, butter, and milk, in proper amounts to supply 1/3 to 1/2 of the child's daily food needs. North Carolina is taking steps to get such lunches to some 400,000 additional students, most of whom can't afford them and others who can but eat a la carte items.*

that education be made available to all. We must also help the child who has education available to him but who is unable to take full advantage of it simply because he is hungry."

To win local support, Searing and his staff traversed the State, convincing local school officials of the value of sound nutrition and its relationship to the total learning process, reminding them that the National School Lunch Program is not a Federal give-away, that instead it is a three-way partnership involving Federal, State, and local benefits and responsibilities.

But there were some in the local communities who did not need to be sold. One such person was Samuel A. Gilliam, principal of G. W. Carver School. Carver (grades 1-12) is located in Pinetops, a rural community in Edgecombe County. Carver is one of the county's 9 Negro schools out of a total of 13 schools.

The county is in North Carolina's peanut-cotton-tobacco belt, in which

the majority of Searing's 121 special assistance schools are located. Many of the county's wage earners are seasonal farm hands largely out of work from November through March. Some have been employed for the last 5 years by plants making caskets and mattresses.

Principal Gilliam has been struggling since 1936 to administer to the food needs of his students. "Students often came to me or the teachers complaining of nausea, dizziness and headaches," he recalled. "So we'd have to stop teaching and take them home or to the doctor, only to find out that they were simply hungry."

"At that time our 4 buses had to leave around five in the morning in order to get all the students to school on time. Some of the parents undoubtedly had food but either couldn't or didn't fix it in time. Others just didn't have it. So the kids came to us hungry already. They couldn't return home for lunch. Home was too far away. (We still pick up students within a radius

of 19 miles.) And they had no money, especially from November until spring when parents would again start working as day laborers on farms."

Gilliam contends that even if the child's father has money and "throws it away," that child is still deprived, still hungry, and the only way to give him respect for himself is to give him an opportunity to compete with other boys and girls and have a chance to feel that he "belongs."

At any rate, Gilliam insists, "it was almost impossible to teach under those conditions, so we got busy to feed the kids ourselves. We got some Government foods and raised enough money to buy a little from stores. We bought bowls and spoons and then soaked some beans overnight; put some meat into them and served soup and sandwiches and drinks, in the hallway of the school."

Despite many problems, he fed his children in such an improvised lunchroom from 1941, when Carver was completed, until October 1964.

That's when he got his food service department. It started sometime earlier when a county school official asked Gilliam how many classrooms he wanted. Gilliam replied that he wanted a lunchroom. Fearing he'd been misunderstood, the official repeated his question and again Gilliam's reply was the same. Reminded that his school was so crowded that he had 5 classes partially partitioned off in the gymnasium, Gilliam replied that so did most schools in the county. Even those that had lunch facilities held classes in the gym, but at lunchtime, they ate in a food service department. He wanted a lunch service.

Some doubted that the students would participate sufficiently to warrant establishment of such a service. Participation in such schools elsewhere in the State left much to be desired. Certainly participation was low, Gilliam answered. "Many of these students are too poor to afford the lunches. Reduce the lunch cost to their ability to pay, and let's see what happens. Also, let's try eliminating those candies, chips, and drinks sold in such schools. Elementary kids are too young to be given a choice over so important a matter. They will naturally choose the sweets instead of a nutritional lunch," he said.

Still doubtful, but going along with Gilliam nevertheless, county officials constructed his lunch service. The State gave the school a 13-cent reimbursement rate which enabled the school to sell lunches for 10 cents to elementary



children and 15 cents to high school students. Those unable to pay anything were served free. The school hired seven workers to man the lunchroom, five full time and two part time. With school lunch funds, the schools buy about 80 per cent of their foods locally, supplementing them with USDA-donated foods, selecting and cooking foods in conformity with local tastes.

Built to serve 168 students, the lunchroom draws some 700 of the school's 949 students in average daily attendance. It has drawn as high as 849. Some 180 to 220 children bring their lunches. None go home for lunch.

Indicating the program's popularity, some of the children help their parents on the farm in the morning but attend school by noontime to get fed. Often it's their only adequate meal of the day.

The number of free lunches served is a good indication of seasonal unemployment in Edgecombe County. Carver served only 65 free lunches in October when the service opened, but served 427 in November, 646 in December and 3,095 in January.

Now that the kids get a wholesome lunch, teachers seldom hear complaints of dizziness, nausea or stomachaches. Moreover, teachers report that sluggishness has largely given way to a yearning to learn. They report more energy and mental relaxation; better grades, especially during the evening classes; some report beneficial changes in students' skin, hair and eyes; one student reported that physical exhaustion is now a pleasure instead of something that would have been unthinkable before; and attendance is way up.

So enthusiastic was Edgecombe's County Superintendent Morris S. Clary that he asserted unequivocally: "Of all the innovations on the school scene in the 20th century, the school food service program is tops."

Come July when Edgecombe County gets its \$770,000 share of the \$100 million bond issue, food service departments will be built for the remaining 8 schools there now without them, and indeed for all the similarly situated 35,000 children in 95 schools throughout the State.

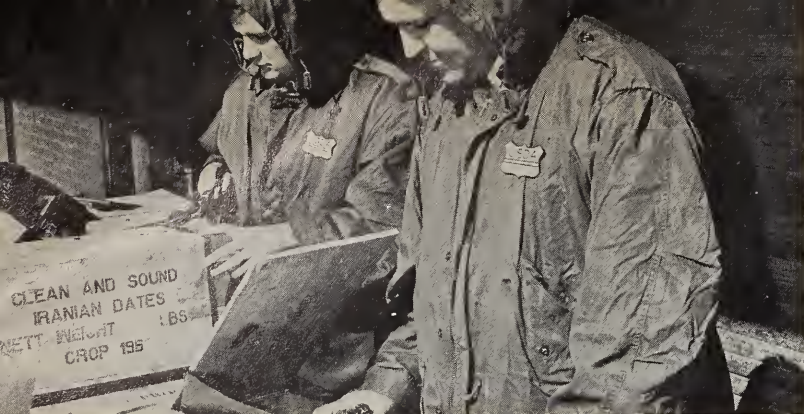
Moreover, things are looking up for North Carolina's remaining 400,000 children not now eating lunches available to them, 300,000 of them because they can't afford to. In his recent budget message, Governor Dan K. Moore urged the appropriation of more than \$800,000 to extend lunches to them. This could mean the beginning of the end to that State's hungry child problem.



*State Supervisor of School Food Services O. L. Searing confers with some of his assistant supervisors. They spearheaded the drive on the State level to get nutritious lunches to schools formerly without them and to bring the lunch price within reach of thousands of needy students unable to buy lunches already available. They've made good progress on both fronts. Below, part of his office with poster saying, "You Can't Teach A Hungry Child," indicating his dedication.*







*Fruit and vegetable inspectors open a shipment of dates from Iran to draw samples for laboratory analysis.*



*In the laboratory, scientific methods are used to determine if the dates cleared for entry are acceptable.*

## A Big Date With Dates

ON New York's cold and windy waterfront in late November and December of this past year, a team of U.S. Department of Agriculture inspectors—bundled up in parkas and high boots—toiled to get a big job done.

The job was the annual Big Date Deal—so called by the processed fruit and vegetable inspection team of USDA's Consumer and Marketing Service, who regard this as their last but not least major assignment of the year. Involved last year were shipments totaling 35½ million pounds of dates from Iraq and Iran. Of these, 28 million pounds were tendered for retail packaging and 7½ million pounds for bakery use or other processing outlets.

The Food and Drug Administration of the U.S. Department of Health, Education and Welfare is responsible for making sure both domestic and imported foods—including dates—meet wholesomeness standards. C&MS is responsible for making sure that imported dates for retail packaging meet minimum quality regulations established under the Agricultural Marketing Agreement Act. The import regulation requires that dates imported for retail packaging meet standards of quality comparable to those set for U.S.-grown dates under a Federal marketing order.

The purpose of both the marketing order regulation and the import regulation is the same—preventing poor quality dates from being sold on the U.S. market.

Similar quality regulations apply to imports of many other products—walnuts, limes, potatoes, onions, oranges, grapefruit, and avocados.

To avoid duplicating inspection and to speed up inspection and clearance of imported dates at the ports, C&MS, by agreement with FDA, inspects dates

tendered for retail packaging to make sure they meet both the wholesomeness requirements and the quality regulations. FDA inspects dates destined for further processing, for compliance with FDA regulations.

Most of the date-bearing ships that enter the New York harbor, dock either at Staten Island, Port Newark, or Erie Basin in Brooklyn. A ship may carry anywhere from a half-million to several million pounds of dates, in lots ranging from 1,000 to 100,000 pounds or more.

Almost as the ships dock and the longshoremen get their equipment into place, the green light signals for the processed fruit and vegetable inspection team to start moving. Every lot in the huge shipments tendered for retail packaging will be sampled, inspected for grade and wholesomeness, and cleared—or rejected—for entry into this country.

Inspecting this many dates in three to four weeks means back-breaking work and unflagging concentration. Some 40 inspectors, given special training in the inspection of dates, are on the job.

Inspections of imported dates are based on samples taken from each separate lot. To prevent confusion later on, the inspectors try to draw the samples as the ships are unloaded. That's when such circumstances as freezing weather can make a big difference—both in regard to working conditions and condition of the dates.

Samples become difficult to take because the natural sugar in the dates hardens as it freezes, even when the fruit is well packed. Generally, the dates for retail packaging arrive in paper-lined wooden or corrugated cases usually weighing about 55 pounds.

Most of the cases hold four layers of dates, packed with paper between the layers.

If sampling and analyzing are not completed by the time a ship has been unloaded, there's possible trouble ahead. Drawing a sample for inspection during unloading goes off smoothly enough in most cases. But let the lot be moved out or about on the pier before it's cleared for entry, and problems start mounting.

Piers can be a place where a small lot of dates may easily get mislaid. Tracking down a missing lot takes time and manpower. And if a lot is mislaid, it can hold up inspection.

After selecting random samples from the lots of dates, the inspectors take them to the laboratory, where they're examined.

Inspectors score the dates for brightness of color, uniformity of size, absence of defects, plumpness, and meatiness. Under bright light, they make sure the dates are free of insect infestation, dirt, mold, and sourness.

Once the inspectors clear a shipment for wholesomeness and grade it for quality, they notify U.S. customs inspectors and the importers—so the lots may be released and moved from the pier to private warehouses or packing plants. There they will be prepared and packaged for the retail market.

When the Big Date Deal is finished, the New York inspection team goes back to its regular year-round business of inspecting and grading processed fruits and vegetables produced in the U.S. or imported from abroad. Whether the items are frozen foods, bottled juices, canned or dried fruits or vegetables, or others, inspection of these products aids in the marketing of food for the Nation's consumers.



# BETTER STORAGE FOR SWEETPOTATOES

*By Leaton J. Kushman*

GROWERS and other operators of storage facilities can store sweetpotatoes in better condition by reversing conventional ventilation systems.

In systems now used, cured sweetpotatoes are usually cooled to 55° to 60° F. by introducing cool air near the floor of storage rooms and exhausting warm air out of the top of the rooms.

Reversing the airflow is the system now being recommended by marketing researchers of the U.S. Department of Agriculture and the North Carolina Agricultural Experiment Station. Under this system, cured sweetpotatoes are cooled by air drawn into the rooms through vents in the ceiling. This creates a layer of cool air at the top of the room through which the warm air rises. The result is uniform cooling in all parts of the room, and the difference between the temperatures at the top and bottom of the room is reduced.

When conventional ventilation systems introduce cool air into the bottom of the room, the difference between the top and bottom room temperatures usually increases. Sweetpotatoes near the floor may be chilled, while those stacked at the top of the room remain warmer than desired.

Cooling fans in the recommended system draw air through ceiling vents at a rate of 1 to 2 cubic feet per minute per bushel of storage capacity during late fall and spring. Time clocks and thermostats automatically operate the fans so that cool night air is usually drawn into the rooms until shut off by a refrigeration-type thermostat. Additional tests may indicate more precisely which ventilation rates are most satisfactory.

Scientists in USDA's Agricultural Research Service also determined how the new ventilation system would behave under adverse conditions created by decaying sweetpotatoes. The system passed the test with flying colors, successfully removing the excess moisture and heat generated by the decaying roots.

Good results with reversed ventilation depend partly on adequate insula-

tion. The 12-inch thick concrete block walls of one tested storage building were filled with granular insulation. Several inches of similar insulation covered the roof, which was topped with concrete and standard roofing materials. Other kinds of insulating materials are also effective when used in sufficient thickness to prevent excessive loss of heat during cold weather or gain of heat during warm weather.

The system recommended for heating storage rooms, when heat is needed instead of ventilation, employs the same principle—that warm air rises and cold air falls.

In one storage building, an oil furnace served six storage rooms, each 48 by 19 feet, with ceilings varying from 14 to 18 feet in height. Ducts ran under the floor to four 4 by 12-inch registers at each end of the storage compartment. Air returned to the furnace through a duct in the floor at the center of each room. Temperatures could be varied as needed in different rooms by individual room thermostats and by motor-controlled dampers in supply ducts.

Tests in efficiently designed buildings with improved ventilation and palletized handling systems have been so promising that some operators began to incorporate similar systems before conclusion of the ARS tests.

One business, employing 25 workers, now operates with such facilities, and has so increased its business that facilities, although still new, have been outgrown. This is a concrete example of progress—increased employment opportunities and revitalized agricultural enterprises for rural communities.

Further details are given in Technical Bulletin No. 166, "Overhead Ventilation of Sweetpotato Storage Rooms." Copies may be obtained from the Agricultural Experiment Station, Raleigh, N. C. 27607.

*(The author is a member of the Market Quality Research Division ARS, stationed at Raleigh, N. C.)*

*This sweetpotato house has a reversed airflow system under which sweetpotatoes, after curing, are cooled by air drawn into the rooms through vents in the ceiling. Uniform cooling results from warm air rising through cool air.*





THE STORY BEHIND

# THE MARK OF WHOLESOME MEAT



*A penny a month per person—that's all it costs to assure consumers of the wholesomeness of our meat supply. This protection—provided by the Meat Inspection Division of the U. S. Department of Agriculture's Consumer and Marketing Service—requires far more than looking at random samples of meat. It begins with plant construction and equipment, and extends to the labels found on retail meat products.*



*N-17226 — (Upper left) USDA specialists must review and approve in advance all plans for building or remodeling meat packing and processing plants — to make sure that adequate sanitation systems, lighting, and ventilation are provided.*



*N-29380 — (Lower left) All animals are examined by USDA inspectors before slaughter. Healthy animals move into the slaughtering plant. Those showing any abnormal symptoms are separated and tagged for special handling.*



N-29381 — (Right) Inspection of live animals is followed by thorough examination of all parts of the carcass. Meat that fails inspection is held under the inspector's control until it can be processed into fertilizer or inedible grease.)

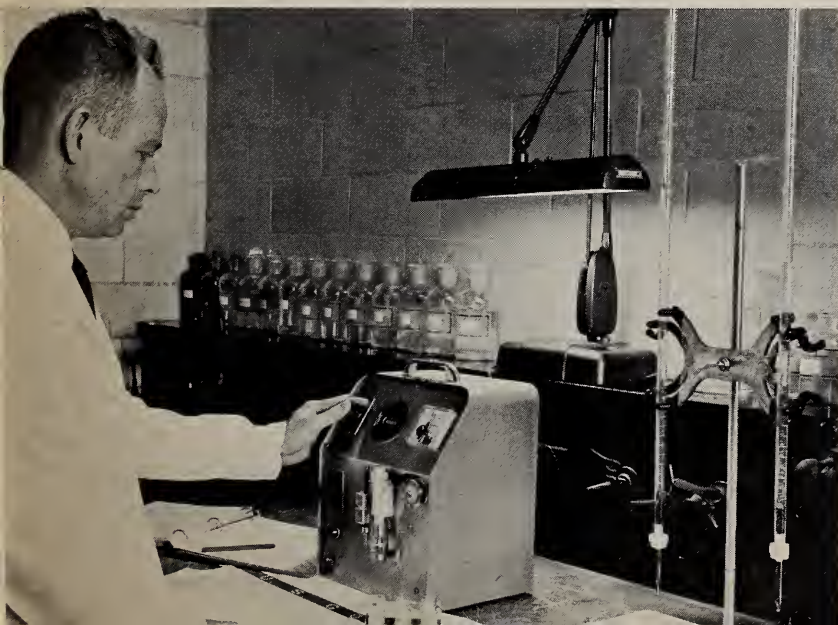


N-17263 — (Below) Though meat is wholesome before processing, it can deteriorate or become adulterated during processing. Federal inspection at all stages of processing prevents unwholesome products from reaching consumer.



N-29362 — (Lower right) Labels for meat products must be approved prior to use to assure that they contain the proper information and are not misleading. Federal inspectors follow up by checking to see that the ingredients used by the processor are the same as those listed on the label.

N-40523 — (Below) Systematic chemical analysis is made of all meat products to insure they meet the required standards of content and quality.





OFFICIAL BUSINESS

## USDA'S WAR ON WASTE

Vice President Hubert H. Humphrey recently presented Presidential Citations to 19 employees and units of the U.S. Department of Agriculture. The citations were for cost-cutting ideas resulting in savings of more than \$1 billion since 1961, the largest savings among non-defense cabinet level departments.

During the ceremony, Vice President Humphrey said we should "fight waste as a mortal enemy." The country, he said, cannot afford inefficiency in the face of an opportunity to erase hunger, to educate, to achieve full employment.

The cost-cutting ideas and the savings they made possible fall into four categories: (1) Innovation — finding the better way — \$218 million; (2) Automation — use of modern machine technology — \$7 million; (3) Increased productivity — better use of manpower — \$151 million; (4) Reduction of grain stocks and carrying charges — \$640 million.

For instance, a \$500,000 projected savings is anticipated from reorganiz-

ing the Agricultural Marketing Service into a new agency called the Consumer and Marketing Service, to which was transferred the meat inspection functions of the Agricultural Research Service and the warehouse examining functions of the Agricultural Stabilization and Conservation Service.

Further savings accrued when the number of children fed under the National School Lunch Program increased 25 percent while manpower increased only 5 percent. Similarly, the volume of meat inspected increased 18 percent while manpower increased only 10 percent. C&MS saved \$245,000 by bulk mailing 18 million market news reports at reduced rates.

Five members of C&MS's Poultry Division received Presidential Citations for the Division's handling of a significantly increased workload during fiscal 1964 at an estimated saving of 165 man-years and \$1½ million. The awards went to: Hermon I. Miller, Director; William E. Hauver, Deputy Director; Roy E. Willie, retired Chief, Inspection

Branch; LaVanus Sanders, Assistant Chief, Inspection Branch; Jonathan K. Keim, Head of the Facilities Section, Inspection Branch.

A separate citation went to Poultry Division's Bernard M. Meeks, Assistant to the Director. Mr. Meeks developed a system of "relief" inspectors at annual savings of \$238,000 in salary and travel costs.

Three members of the Budget and Finance Division — Director Arthur J. Holmaas, Deputy Director James Q. Huey and Financial Management Branch Chief Paul E. Huber — were cited for their proposal which led to adoption of legislation permitting the use of statistical-sampling in the examination of pay vouchers. The new method will produce an estimated savings of \$200,000 in USDA, and additional hundreds of thousands in other Federal agencies and the District of Columbia.

Another award went to William D. Watkins, Assistant to the Chief, Meat Grading Branch, Livestock Division, C&MS. Mr. Watkins developed a new method for manufacturing meat grading chasses. First-year savings amounted to more than \$16,000.



*Some of the C&MS award winners are with Vice President Humphrey and Secretary of Agriculture Freeman. The awardees received Presidential Citations for their cost-reduction suggestions. From left: Bernard M. Meeks,*

*Hermon I. Miller, LaVanus Sanders, the Vice President, Jonathan K. Keim, Arthur J. Holmaas, the Secretary, and James Q. Huey. Three awardees not shown are William E. Hauver, Paul E. Huber, and William Watkins.*